

Application No.: 10/810,435

Docket No.: JCLA11487-R

In The Claims:

Please amend the claims as follows:

1. (currently amended) A method of fabricating an inductor formed on a substrate having at least one first dielectric layer thereon, the method comprising:

forming a patterned first metal layer and a first inductor pattern within the first dielectric layer;

forming a patterned second dielectric layer on the first dielectric layer for covering the first metal layer, the first inductor pattern and the first dielectric layer, the second dielectric layer having ~~pluralities of first openings~~ an opening and a circular-spiral trench ~~second openings~~, wherein the ~~first openings~~ opening exposes the first metal layer and the ~~second openings~~ circular-spiral trench exposes the first inductor pattern;

filling a metal within the ~~first openings~~ opening and the ~~second openings~~ circular-spiral trench for forming a second metal layer within the ~~first openings~~ opening and a second inductor pattern within the ~~second openings~~ circular-spiral trench, wherein the second metal layer ~~electrically connects~~ directly contacts with the first metal layer and the second inductor pattern ~~electrically connects~~ directly contacts with the first inductor pattern; and

forming a patterned third metal layer on the second metal layer and a third inductor pattern on the second inductor pattern, wherein the third metal layer ~~electrically connects~~ directly contacts with the second metal layer, the third inductor pattern ~~electrically connects~~ directly contacts with the second inductor pattern, and the first inductor pattern and the third inductor pattern are not completely overlapping.

Application No.: 10/810,435

Docket No.: JCLA11487-R

2. (original) The method of fabricating an inductor of claim 1, wherein the first metal layer comprises the upmost metal layer of a multi-layer interconnect on the substrate.

3. (original) The method of fabricating an inductor of claim 1, wherein the second metal layer comprises metal plugs.

4. (original) The method of fabricating an inductor of claim 1, wherein the third metal layer comprises metal pads.

5. (original) The method of fabricating an inductor of claim 1, wherein the inductor comprises a symmetric circular-spiral inductor or a concentric circular-spiral inductor.

6. (previously presented) The method of fabricating an inductor of claim 1, wherein the first inductor pattern, the second inductor pattern and the third inductor pattern constitute a three-dimensional inductor structure; the three-dimensional inductor structure has an area; at the area the first inductor pattern does not connect with the third inductor pattern via the second inductor pattern for making a current only flowing along the first inductor pattern when the current first time flows through the area and the current only flowing along the third inductor pattern when the current second time flows through the area.

Application No.: 10/810,435

Docket No.: JCLA11487-R

7. (currently amended) An inductor formed on a substrate having at least one dielectric layer thereon, comprising:

a first inductor pattern formed within the dielectric layer;

a second inductor pattern formed on the first inductor pattern and ~~electrically connecting~~ directly contacting therewith; and

a third inductor pattern formed on the second inductor pattern and ~~electrically connecting~~ directly contacting therewith, wherein the first inductor pattern and the third inductor pattern are not completely overlapping.

8. (original) The inductor of claim 7, wherein the first inductor pattern and a patterned first metal layer formed on the substrate are on the same layer and the first metal layer comprises the upmost metal layer of a multi-layer interconnect structure formed on the substrate.

9. (original) The inductor of claim 7, wherein the second inductor pattern and a patterned second metal layer formed on the substrate are on the same layer, and the second metal layer comprises metal plugs.

10. (original) The inductor of claim 7, wherein the third inductor pattern and a patterned third metal layer formed on the substrate are on the same layer, and the third metal layer comprises metal pads.

Application No.: 10/810,435

Docket No.: JCLA11487-R

11. (original) The inductor of claim 7, wherein the inductor comprises symmetric circular-spiral inductor or a concentric circular-spiral inductor.

12. (previously presented) The inductor of claim 7, wherein the first inductor pattern, the second inductor pattern and the third inductor pattern constitute a three-dimensional inductor structure; the three-dimensional inductor structure has an area; at the area the first inductor pattern does not connect with the third inductor pattern via the second inductor pattern for making a current only flowing along the first inductor pattern when the current first time flows through the area and the current only flowing along the third inductor pattern when the current second time flows through the area.

13. (currently amended) A method of fabricating an inductor formed on a substrate having at least one first dielectric layer thereon, comprising:

forming a patterned first metal layer and a first inductor pattern within the first dielectric layer;

forming a patterned second dielectric layer on the first dielectric layer for covering the first metal layer, the first inductor pattern and the first dielectric layer, the second dielectric layer having ~~pluralities of first openings~~ an opening and ~~second openings~~ a circular-spiral trench, wherein the ~~first openings~~ opening exposes the first metal layer and the ~~second openings~~ circular-spiral trench exposes the first inductor pattern; and

forming a second metal layer filling the ~~first openings~~ opening and on the second dielectric layer and forming a second inductor pattern filling the ~~second openings~~ circular-spiral

Application No.: 10/810,435

Docket No.: JCLA11487-R

trench and on the second dielectric layer, wherein the second metal layer ~~electrically connects~~ directly contacts with the first metal layer and the second inductor pattern ~~electrically connects~~ directly contacts with the first inductor pattern, and the first inductor pattern and the second inductor are not completely overlapping.

14. (original) The method of fabricating an inductor of claim 13, wherein the first metal layer comprises the upmost metal layer of a multi-layer interconnect on the substrate.

15. (original) The method of fabricating an inductor of claim 13, wherein the second metal layer comprises metal plugs and metal pads.

16. (original) The method of fabricating an inductor of claim 15, wherein the second metal layer and the second inductor pattern comprise aluminum.

17. (original) The method of fabricating an inductor of claim 13, wherein the inductor comprises symmetric circular-spiral inductor or a concentric circular-spiral inductor.

18. (previously presented) The method of fabricating an inductor of claim 13, wherein the first inductor pattern and the second inductor pattern constitute a three-dimensional inductor structure; the three-dimensional inductor structure has an area; at the area the first inductor pattern does not connect with the second inductor pattern for making a current only flowing along the first inductor pattern when the current first time flows through the area and the current

Application No.: 10/810,435

Docket No.: JCLA11487-R

only flowing along the third inductor pattern when the current second time flows through the area.

19. (previously presented) The method of fabricating an inductor of claim 1, wherein the patterns of the first inductor pattern, the second inductor pattern and the third inductor pattern are different to each other.

20. (previously presented) The method of fabricating an inductor of claim 19, wherein the bottom surface of the second inductor pattern is completely contacts with the first inductor pattern while the top surface of the second inductor pattern is completely contacts with the third inductor pattern.

21. (previously presented) The inductor of claim 7, wherein the patterns of the first inductor pattern, the second inductor pattern and the third inductor pattern are different to each other.

22. (previously presented) The inductor of claim 21, wherein the bottom surface of the second inductor pattern is completely contacts with the first inductor pattern while the top surface of the second inductor pattern is completely contacts with the third inductor pattern.

23. (previously presented) The method of fabricating an inductor of claim 13, wherein the patterns of the first inductor pattern and the second inductor pattern are different to each other.